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ABSTRACT

The idea that educators would differ from business managers on Herzberg's motivation factors and Blum's security orientations was posited. Parallel questionnaires were used to measure the motivational variables. The sample was composed of 432 teachers, 118 administrators, and 192 industrial managers. Data were analyzed using multivariate and single classification analysis of variance and covariance techniques. Educators placed more emphasis on environmental and security factors. Business managers were generally higher on competitiveness desirability. (Tables of result are included.) (Authors)

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COMPARISON OF EDUCATORS' AND INDUSTRIAL MANAGERS' WORK MOTIVATION USING PARALLEL FORMS OF THE WORK COMPONENTS STUDY QUESTIONNAIRE

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by

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Leaders in industrial and educational organizations have increasingly emphasized the importance of identifying the work attitudes, values, and motivations that employees associate with their jobs. Vroom and Deci (1970) have proposed that differences in performance of individuals doing the same type of work could be attributed to differences in skill or ability and work motivation. Several research and development projects have attempted to describe, explain, and predict employee motivation to work. Progress toward the foregoing goal was made in a study by Ford, Borgatta, and Bohrnstedt (1969). Using the Work Components Study (WCS) questionnaire which was designed to operationalize Herzberg's two factor theory of work motivation and Blum's security orientation, these researchers demonstrated the predictive power of the WCS as a selection device. They found that new college-level employees of an industrial organization who scored the highest on a subscale measuring competitiveness were perceived by the company as moving ahead most rapidly. Miskel (1972) found educators group's to differ on motivation to work. Patton (1972) found differences in the motivation to work across different business organizations. The purpose of the current study is to complement foregoing studies by comparing the work motivation of business managers and of the personnel of the public school system.

Rationale

The theoretical basis of the WCS is the two factor theory of motivation to work developed by Herzberg, Mausner, and Snyderman (1959). The first level factors involve the objective elements of the job situation. The second level factors involve the need and value systems of the workers. Herzberg found that workers have positive reaction to intrinsic aspects of the actual job (achievement, recognition, advancement, work itself, responsibility). Negative reaction was found in extrinsic or environmental aspects of the job situation (company policy, administration, technical supervision, interpersonal relations, working conditions, job security). Herzberg described intrinsic variables as motivators or satisfiers and the extrinsic variables as hygiene factors.

Centers and Burgental (1966) have found that individuals at higher occupational levels tend to place greater value on intrinsic job factors than do individuals at lower occupational levels. White-collar workers were found to place more importance on interest in the work involving skills and talents required by the job, and personal satisfaction received from the job. Blue-collar workers, on the other hand, tend to select or stay with a particular job because of monetary rewards, type of co-workers, and job security.

The research of Blum (1961) showed a relationship between an individual's desire for job security and the type of job an individual selects. Blum suggested individuals might prefer a job with low security if the job provides opportunity for achievement, recognition, or advancement, while other individuals might prefer job security. These findings were incorporated into the development of the WCS. The original development of the WCS (Borgatta, 1967) was conducted under the assumption that people respond differently to the factors in the job situation, and that an organization would select people for managerial positions that show incidental concern for the hygiene factors rather than those that are overly concerned with the hygiene factors. The rationale for this assumption was that managerial positions are probably low in hygiene rewards and high in opportunity for intrinsic reward. People possessing a security complex cannot function in the typical managerial type position, as low hygienic conditions create frustration and minimize their motivation to perform. Brown (1970) found that business administrators scored significantly higher than school administrators on risk propensity, achievement motivation, and incentives subscales.

For this study it was proposed that some factors of motivation are related to the particular type of employment organization an individual selects, and some factors of

motivation relate to the characteristics of the job itself. It follows that central office administrators and business managers should be more similarly motivated on intrinsic, security, and risk factors than teachers and principals. Thus, there should exist motivational factors which are common to people in administrative positions. Similarly, a person's selection of a particular type of employment organization should relate to certain motivational factors which are common to most employees of the organization.

For this paper it was hypothesized that motivational factors to work differ between teachers, principals, central office administrators, and business managers. Specifically, the posited order on security and extrinsic factors is teachers, principals, central office administrators and business managers. On risk and intrinsic factors of motivation the order of the groups should be reversed with business managers scoring highest and teachers scoring lowest.

Methodology

Instrumentation

In developing the WCS, ten theoretical categories were devised assuming some correspondence to the first and second level factors posited by Herzberg. An inclusive list of content ideas under each category was constructed. The

primary sample analyzed were 153 University of Wisconsin college students. Using principle components varimax rotation, six factors were selected as having reasonably clear definition with the promise for the construction of subtests having some degree of independence (Borgatta, 1967).

The WCS was adapted for use in the educational organization by Miskel and Heller (1972). To preserve content, the original items were reworded by replacing words relating to industrial work situation with corresponding words pertaining to an educational work situation. As an example, "school" was substituted for "company." The final instrument, the Education Work Components Study (EWCS), consisted of 56 Likert-type which were shown to be relatively stable when used in the educational organization. Using principle components varimax rotation the EWCS produced six well defined factors. The above researchers reported the alpha coefficients (Cronback, 1951), the estimated reliabilities of the subscales ranged from .73 to .83.

The EWCS is composed of the following six factors:

1. Potential for personal challenge and development (8 items). The factor contains items which purport to measure the desirability of a job in which there is an opportunity for creativity, an opportunity for as much responsibility as one wants, and an emphasis on individual ability.

2. Comparativeness desirability (and reward of success) (7 items). The factor contains items which measure whether an

individual seeks job situations where the salary is determined by merit, the competition is keen, and the emphasis is on accomplishment.

3. Tolerance for work pressure (9 items). The factor contains items which measure attitudes toward situations where the work load might be excessive or where a person might have to take work home.

4. Conservative security (11 items). The factor contains items to measure whether the individual wants to play it safe and have security with well-defined promotion guidelines and job routines.

5. Willingness to seek reward in spite of uncertainty versus avoidance of uncertainty (10 items). The factor contains items to measure whether the individual is willing to do interesting work even though he might get fired easily or it might be a short-run job.

6. Surround concern (11 items). The factor contains items to measure the individual's concern with the hygienic aspects of the job.

Business managers sampled during this study received a modified form of the WCS. The 56 items found to be stable and reliable in an educational organization were taken from the industrial form developed by Borgatta (1967).

The educators sampled during the study received copies of the EWCS. Consequently, the instruments received by

business managers and educators were parallel; that is, the items were identical except for references to company instead of school and vice versa.

For both forms, the respondents read: "How desirable would YOU consider each of the following items in a job for YOU? A job where..." The items followed, each with a five point Likert-type response varying from "completely undesirable, would never take the job" to "extremely desirable, would favor the job greatly." The response categories were assigned arbitrary values of one to five.

The scores obtained from the two parallel forms of the EWCS are designed to measure the various facets of work motivation. Here lies the basis for answering the primary questions presented in this study. Are managers in different types of employment organization motivated by the same factors? Are all employees who select a particular type of employment organization motivated by the same factors?

Sampling

A sample of 265 business managers were randomly selected from service, manufacturing, and financial industries in the greater Kansas City area. The representation from each type is as follows: one hundred forty from service industries (computing and utilities); sixty from manufacturing industries (clothing, steel, and tool); sixty-five from financial industries (insurance and securities). Using an original and one follow-up mailing, 192 or 72.4% of the questionnaires

were returned as follows: service industries, 173 (72%); manufacturing, 33 (55%); and finance, 51 (78.4%).

From three school districts in the same metropolitan region a stratified random sample of 683 teachers and administrators was selected. The approximate number of teachers and administrators employed at each school district at the time of sampling was as follows: district A, 400; district B, 1,500; and district C, 2,300. The following are the three guidelines used in selecting subjects: (a) 25 percent from district A, the smallest, versus 12.5 percent from districts B and C, (5) 50 percent of the administrators and counselors versus 10 percent of the teachers, and (c) a separate sample of 50 elementary male teachers. The return from 118 administrators and 432 teachers were received. The total of 550 represented 80.5 percent of subjects selected.

Analysis

For this study four groups were identified: teachers, principals, central office administrators, and business managers. The computer program used to conduct the primary analysis of the data required equal sample size for all groups. Using the smallest group size, as the sample size, 48 subjects were randomly selected from each of the remaining groups.

Multivariated analysis of variance techniques (Dixon, 1969) was used to analyze the data. For descriptive purposes each of the six factors was systematically co-varied out of the complete design. As suggested by Cooley and Lohnes (1971), univariate F-ratios were computed in an effort to establish which variable contributed to group discrimination. Following a significant univariate F-ratios, all pairs of group means were compared using the Tukey (a) procedure (Winer, 1962). Finally, as an alternate post hoc procedure a multiple contrast between business manager means and a combination of the means for the three educator groups was conducted. The exact probability of all F-ratios was computed using a procedure described by Veldman (1967).

Results

The results of the multi-variate analysis are summarized in Table 1. As indicated, the obtain multivariate F-ratio for each of the designs is significant beyond the .05 level. The F-ratios and corresponding probabilities presented in Table 1, clearly, indicated that the vectors of group means differ significantly.

TABLE 1 ABOUT HERE

To identify the variables most likely to account for group differences, a univariate analysis of variance was conducted on each variable. The results of these analyses are presented in Table 2. The obtained F-ratios for variables 2, 3, 4, and 6 are significant beyond the .05 level. Consideration of Table 1 and Table 2, indicate the importance of variables 1 and 5. First Table 2 indicates that there is no significant difference between the group means. However, when each of the variables was co-varied from the multi-variate design, the F-ratio increased. Thus, the variables tend to decrease the error variance within groups. In this manner, potential for personal challenge and willingness to seek reward contribute to the significant difference found to exist between the elements of the set of group mean vectors. The results of the post hoc analysis of each variable will be presented and discussed separately in the following paragraphs.

TABLE 2 ABOUT HERE

As indicated in Table 2, the univariate F-ratio for the competitiveness desirability sub-scale was significant beyond the .01 level. The means for each of the groups were compared using the Tukey (a) procedure. The results summarized in Table 3 indicate business managers and central office administrators had mean scores significantly higher than the

mean scores of principals and teachers. There was no significant difference between the means of central office administrators and business managers. Thus, the data indicates business managers and central office administrators view competition more favorable than do teachers and principals.

TABLE 3 ABOUT HERE

The univariate F-ratio computed for the conservative security subscale was significant at the .05 level. However, the Tukey (a) procedure did not indicate that the difference between any pair of means was significant. As an alternate post hoc procedure, a multiple contrast between the mean for business managers and a combination of the means for the three educator groups was conducted (Winer, 1962). The weights for the contrast were as follows: business managers--3, teachers--1, principals--1, and central office--1. The test determined the contrast to be significant beyond the .01 level. The mean for business managers was significantly lower than a combination of educator group means on the conservative security subscale. Thus, the data indicates that business managers show less concerned for job security than do educators.

The obtained univariate F-ratio for the tolerance for work pressure variable was highly significant. Post hoc comparison of the means, summarized in Table 4, indicate teachers scored significantly lower on tolerance for work pressure than each of the other groups. Furthermore, there was no significant difference between the means of the principals, central office administrators and business managers. Thus the data indicates teachers show less tolerance for work pressure than each of the other groups.

TABLE 4 ABOUT HERE

The univariate F-ratio for the surround concern subscale was significant beyond the .01 level. The post hoc comparison of the means, summarized in Table 5, indicate that the mean for business managers is significantly lower than each of the educator group means. There was no significant difference between the means within the educator groups. The data indicates business managers are significantly less concerned about their surrounding environment than employees of the educational organization.

TABLE 5 ABOUT HERE

The data indicates that the motivation to work of the four groups, teachers, principals, central office administrators, differs significantly. The teachers and principals showed significantly less concern for reward of success than business managers and central office administrators. The teachers showed significantly less tolerance for work pressure than the other three groups. The business managers showed significantly less concern about job security and surround concern than did the teacher groups. Further, within the educators there was no significant difference on the conservative security and surround concern subscales.

The posited ordering of the groups: business managers, central office administrators, principals, teachers was confirmed. The relationship of the group means is graphically presented in Figure 1. Of the three educator groups, central office administrators showed motivation to work most similar to business managers. The data supports the following conclusions:

1) Business managers are less concerned about job security and surrounding environmental conditions than employees of the educational institutions.

2) Business managers and central office personnel are more motivated to work by factors relating to competitive desirability and reward of success than are teachers and principals.

3) Teachers have less tolerance for work pressure than the three other groups considered.

The data indicates that employees of the public schools as a group are motivated to work by job security and surround concern. The results generally

support the posited relationship that educators are motivated to work by different factors than are business managers. Further the findings indicate that motivating factors exist which are common to employees in management positions. More specifically, the conceptual model of Pavalko (1971) and the research findings of Brown are supported. Educators, as a group, place more emphasis on the hygiene factors of security and work surroundings while business managers are more competitive. However, central office personnel differ from other educators in that they place an emphasis similar to that of business managers on reward of success.

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Table 1

MULTIVARIATE F-RATIOS FOR THE
SIX EWCS FACTORS

	Covatiates	F-Ratio	Probability
All 6 variables as dependent variable		5.77	.001
	Variable 1	6.74	.001
	Variable 2	4.84	.003
	Variable 3	4.88	.003
	Variable 4	6.32	.001
	Variable 5	6.48	.001
	Variable 6	5.86	.001

TABLE 2

UNIVARIATE ANALYSIS OF VARIANCE FOR THE SIX EWCS FACTORS

Variable	Source	df.	M.S.	F-ratio	Probabilities
1. Potential for Personal Challenge and Development	Between	3	9.12	0.88	.545
	Within	188	10.27		
2. Competitive Desirability (and Reward of Success)	Between	3	317.92	9.89	.00003
	Within	188	32.13		
3. Tolerance for Work Pressure	Between	3	181.91	9.66	.00004
	Within	188	18.83		
4. Conservative Security	Between	3	106.52	2.75	.0432
	Within	188	38.68		
5. Willingness to Seek Reward in Spite of Uncertainty vs. Avoidance of Uncertainty	Between	3	94.68	2.03	.1097
	Within	188	46.62		
6. Surround Concern	Between	3	139.66	4.88	.0031
	Within	188	28.63		

TABLE 3

COMPARISON OF THE GROUP MEANS FOR COMPETITIVENESS DESIRABILITY AND REWARD OF SUCCESS

	Groups			
	Teachers	Principals	Central Office Administrators	Business
Means	23.08	24.10	27.65	28.29
23.08			**	**
24.10			*	**
27.65				
28.29				

* Significant beyond the .05 level

** Significant beyond the .01 level

TABLE 4

COMPARISON OF THE GROUP MEANS FOR TOLERANCE FOR WORK PRESSURE

	Groups			
	Teachers	Principals	Central Office Administrators	Business Managers
Means	27.35	30.60	31.15	31.69
27.35		**	**	**
30.60				
31.15				
31.69				

** Significant beyond the .01 level

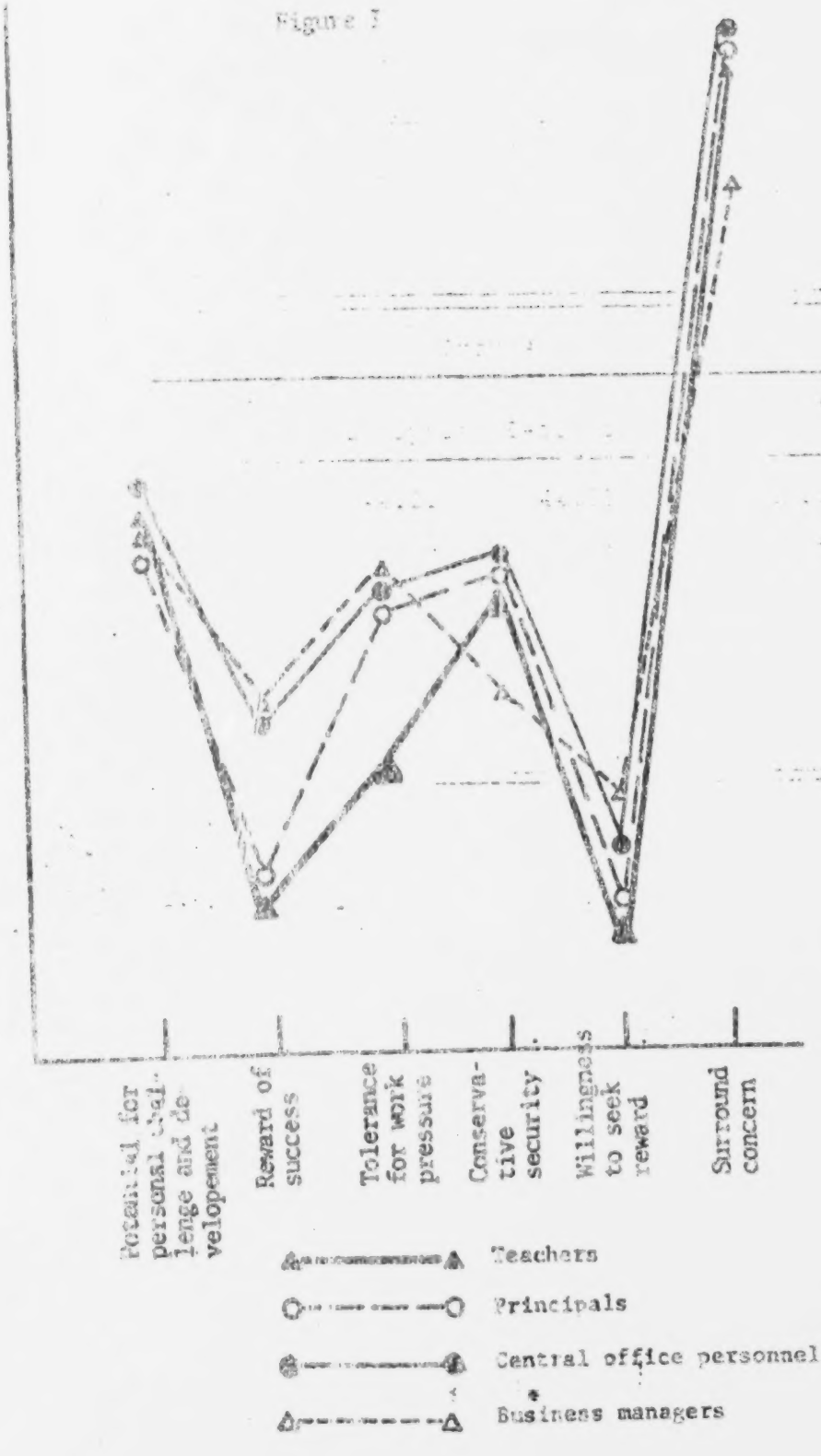
TABLE 5

COMPARISON OF THE GROUP MEANS ON THE SURROUND CONCERN

	Groups			
	Business	Principals	Teachers	Central Office Administrators
Means	40.92	44.25	44.35	44.38
40.92		*	*	*
44.25				
44.35				
44.38				

*Significant beyond the .05 level

Figure 1


Potential for personal chal-
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Reward of success
Tolerance for work pressure
Conserva-
tive
security
Willingness to seek reward
Surround concern
Teachers
Principals
Central office personnel
Business managers